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PHYSICIAN ACCEPTANCE OF GATEWAY TO CARE
AT IRWIN ARMY COMMUNITY HOSPITAL

A Graduate Management Project
Submitted to the Faculty of
Baylor University
In Partial Fulfillment of the
Requirements for the Degree
of
Master of Health Administration
by
Captain Kaylene M. Curtis
July 1992

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ABSTRACT

Gateway to Care, the Department of the Army coordinated care program, was initiated at Irwin Army Community Hospital, Fort Riley, Kansas on January 8, 1992. In a coordinated care environment, even more than a traditional staff or free market health care environment, the physician guides the patient's course of treatment. Without physician commitment, Gateway to Care cannot readily succeed. This study establishes a measure of acceptance of Gateway to Care among military physicians at Irwin Army Community Hospital. The project was conducted in three phases: Phase I involved determining the attitudes, perceptions and resulting acceptance of the physicians through an analytical research process; Phase II used those variables displaying statistical significance to develop and implement an internal marketing intervention plan; and Phase III evaluated the success of the intervention. The results indicate that physician acceptance of Gateway to Care, or any other coordinated care program, may be enhanced through internal marketing, effective continuous two-way communication, and a participatory management style.

INTRODUCTION

Conditions which Prompted the Study

Spiraling medical care costs, increased governmental regulation, and mounting pressure from health care consumers have prompted health care administrators to search for new and innovative ways to deliver quality health care in an efficient, cost-effective manner. Managed care is one of these new ways. The term "managed health care" refers to systems developed to coordinate the delivery of health care in a manner that controls quality, quantity, and costs.

Managed or coordinated care will become the central formula for the provision of military health care within the next few years. Fourteen Army medical treatment facilities began implementing "Gateway" managed care programs in fiscal year 92. Irwin Army Community Hospital, a 129 bed health care facility located in north-central Kansas, is one of the Gateway sites. Primary goals of Gateway include:

- 1) Containing the rapidly rising rate of health care costs for both CHAMPUS beneficiaries and the government;
- 2) Maintaining or improving the quality and accessibility of patient care;

3) Improving beneficiary and medical treatment facility staff satisfaction.

Environmental Analysis

Irwin Army Community Hospital is located on a 100,000 acre military installation in the Rolling Flint Hill Plains region of Northcentral Kansas. This historic post is best known as the frontier cavalry post once commanded by General George Armstrong Custer. Today it is the home of almost 20,000 soldiers of the Big Red One, First Infantry Division, Mechanized. Fort Riley is in close proximity to two medium-sized civilian communities, Manhattan (population 45,000) and Junction City (population 32,000).

Irwin Army Community Hospital is a modern, full service, short term, acute care general hospital supporting a population of 44,000 beneficiaries within its 40-mile catchment area radius. This geographic span includes Riley, Geary, Clay, Wabaunsee and Dickenson counties.

The Commander, Irwin Army Community Hospital is responsible for all medical care expenditures within the catchment area under the Gateway to Care concept. For Fiscal Year (FY) 92, the total "capitation budget" for Irwin Army Community Hospital is \$52,300,000: \$37,900,000 is allocated for Direct Care and

\$14,400,000 is allocated for CHAMPUS. In Fiscal Year (FY) 91 CHAMPUS paid \$9,859,664 in claims for the Fort Riley catchment area. Irwin Army Community Hospital's business plan projects a "savings" of \$58,100 in FY92 and \$318,800 in FY93.

Irwin Army Community Hospital implemented the initial phase of its Gateway to Care program by opening five primary care panels on January 8, 1992. Each Fort Riley active duty family is assigned to a primary care team according to their sponsor's unit of assignment. Each primary care team consists of a group of medical providers from both Irwin Army Community Hospital and the 1st Infantry Division. These teams are responsible for every assigned patient and oversee his or her care.

The assigned primary care team is the patient's first point of contact for care. Three primary care teams, the Red, White, and Blue Teams, are family practice teams. The Green Team is a general practice team. The Silver Team is staffed by Internists and provides primary care to retiree families and patients with special medical problems, such as, cancer, cardiac disease, etc. Family members assigned to the Green or Silver Team receive pediatric and obstetrical/gynecological care from the Pediatric Clinic and the Obstetrical/Gynecological Clinic.

Retiree families enrolled in Family Practice prior to January 8, 1992 were assigned to teams on the basis of their assigned physician. Retiree families not enrolled in Family Practice prior to January 8, 1992 and non-Fort Riley stationed families are seen on a walk-in basis in the General Outpatient Clinic.

The provision of quality health care at Irwin Army Community Hospital, or any Army hospital, should be a team effort. The success of Gateway to Care depends on participation of all the "players" involved. The "player" market audience includes the providers of care as well as the actual recipients of care. Healthcare organizations must, therefore, direct the same marketing commitment internally as they do externally (Mack and Newbold, 1991). Coddington and Moore (1987) cite evidence that physicians are the most important healthcare internal market segment. They believe that the strategy of physician marketing is especially important for the future. Physicians, as key "players" in healthcare organizations, are also key to the success of Gateway to Care.

Kotler and Clarke (1987) view physicians as "intermediaries" for the purposes of marketing to the public. This philosophy is changing. Both the military and civilian sectors recognize physicians as

one of the primary "customers" of health care organizations. Searcy and King (1990) also believe that a hospital's number one customer is the physician. In the civilian sector, physicians control 70 percent of the admission decisions (Coile, 1990), in the military sector that figure is 100 percent. Weisbord and Stolewinds (1979) state that physicians are important to hospitals for three main reasons: 1) they decide whether to admit patients; 2) they primarily determine the patient's length of stay; and 3) they affect the hospital's cost per day. In the military health care environment physicians have a direct impact on patient volume, appointment availability, patient satisfaction and resource allocation.

Statement of the Management Problem

The physician has control as the patient care manager. Without physician commitment to the organization's goals and objectives, Gateway to Care cannot readily succeed.

Review of the Literature

Power of Physicians

Starr (1982) notes that physicians in the United States have much more power than in other countries. This is due, in part, to the emphasis put on health in the United States. This power is not limited to the

medical arena but has extended to political and economic arenas as well. The public is dependent on the physician to make them well, the health care organization is dependent on the physician for workload and expense controls. Physicians are accepted as cultural authorities of medicine.

Historically, Schulz and Johnson traced the stages of physician influence on hospital management through four periods: the Trustee Period (1900-1920), the Physician Period (1920 to 1960), the Administration Period (1960 to 1990) and the Team Period (1990 to ??). Technological advances during the physician period transformed the hospital from a custodial institution to one of diagnosis and treatment. The physician was king. The aura of the scientific method and the physician as a mysterious master of medicine lingered. The physician decided when and where a patient was admitted. The hospital administrator was merely a business manager or procurement agent. This author contends that the period of professional dominance did not end in 1960 but is still an important factor today and will continue to be so.

Marketing to Physicians

Health care organizations realize the importance of marketing to the physician as a customer. The

number of recently published texts and periodicals devoted to physician marketing and physician "bonding" programs attest to the increased emphasis on the importance of physicians to the health care delivery system. Paul (1989) suggests that successful health care organizations market the hospital to the physicians, market the hospital with the physicians, and market the physician directly. Successful internal marketing can provide a means of soliciting the meaningful physician participation essential to the success of Gateway to Care.

Internal marketing is composed of two processes: (1) maintaining open lines of communication in order to discover and respond to the needs of others within the organization and (2) regulating and maintaining power in order to get what one wants (Mack and Newbold, 1991). An important step in the first process is marketing research. Marketing research involves determining the wants and needs, or attitudes and perceptions, of the customer, in this case the military physicians assigned to Irwin Army Community Hospital, as a basis of deciding the best course of action. Marketing research is "talking with the customer, thinking like the customers and, above all, keeping an open mind" (Hillestad and Berkowitz, 1991). Keckley

(1988) lists a variety of market research methods to include personal observations, personal interviews, closed-ballot surveys, telephone surveys, and focus groups. Each method involves several trade-offs, information required, costs, and how quickly the results are desired.

Coddington and Moore (1987) suggest that the best way to predict physician acceptance of a concept is to first identify market segments based on specialty, years in practice or value systems, and then to analyze the concept from the perspective on each segment; such as, primary care providers versus specialists or family medicine physicians versus general surgeons.

Physician Concerns with Gateway to Care

Several key concerns have been previously identified at two Army Catchment Area Management (CAM) test sites (personal conversation with K. Gwaltney, May 22, 1991). They include:

1. The fear that the external provider will receive the "best" or complicated cases and the internal providers will be left with routine medical procedures.
2. Resentment toward pay differentials.

3. Failure of the external provider to participate in the administrative burdens thrust upon the internal providers.

4. Failure of the administration to solicit medical staff involvement in the development of external provider mix, duties and responsibilities.

5. Lack of incentives for internal providers to increase productivity or to even participate in the success of Gateway.

Securing Commitment through Planning Involvement
and Marketing Communication

A study of 162 CEO's indicated that the most frequent reason given for failure of hospital projects was lack of physician commitment (Boyle, 1988).

Involving physicians in planning is one method of securing commitment and support. Rice and Keck (1984) state that too many physicians are hesitant to participate in hospital planning because they view the process as "investing valuable time in a decision making process that involves too many people who really don't know medical care; a process that is too preoccupied with reams and reams of confusing data; a process that seems poorly organized and managed, and a process that, even if it worked well, won't help me or my patients". Some of the most frequent comments made

by physicians assigned to Irwin Army Community Hospital is "Gateway to Care is a good concept but it was designed by administrators, not physicians " or "Gateway to Care could work if they (the administrators) asked the physicians who actually see the patients every day how it should be designed".

Physician involvement in strategic planning and decision making is important. Shortell (1991) cites three major pitfalls commonly experienced by hospitals who attempt to involve physicians in strategic planning: 1) physicians are not involved early enough in the process; 2) physicians are not kept continuously involved in implementation, as well as, ongoing strategy adjustments; and 3) the medical staff leaders involved in the planning process do not relay the information down to the other hospital physicians.

Of the three pitfalls, lack of communication is the most common and perhaps the most serious. Open communication, both collectively and individually, may be the most important ingredient for securing physician involvement (Shortell, 1991). Gateway to Care must be effectively marketed to physicians in a way that moves them to action. Effective marketing communication techniques include informally structured meetings, meeting the physicians' within their own work areas,

and focusing on how both the physicians and their patients will benefit from the plan (Shortell, 1991).

Purpose Statement

The purpose of this study is to establish a measure of acceptance of Gateway to Care among physicians at Irwin Army Community Hospital, Fort Riley, Kansas. Acceptance is operationally defined as "does the physician support Gateway to Care". Information will be obtained about physician "attitudes" predicated on the assumption that attitudes predict behavior ("acceptance"). Tull and Hawkins (1987) define an attitude as an enduring organization of cognitive (a person's beliefs or information about the object), affective (a person's feelings of like or dislike concerning the object), and behavioral (action tendencies or predispositions toward the object) components and process with respect to some aspect of the individual's world. Physician acceptance of Gateway to Care is dependent upon eight "attitude" or "perception" independent variables: quality of care, access to care, provider satisfaction, patient satisfaction, economical use of available resources, physician involvement in the development of Gateway to Care, physician familiarity with the concept of Gateway

to Care, and equitable distribution of workload among providers.

Supporting Objectives

The supporting objectives of this study were to:

1. Identify patterns in Irwin Army Community Hospitals' physicians' attitudes and perceptions influencing acceptance of Gateway to Care.
2. Develop an internal marketing intervention plan which will encourage physician acceptance of Gateway to Care.
3. Implement the plan.
4. Evaluate the success of the plan and determine what, if any, adjustments were required.

METHODS AND PROCEDURES

Steps

1. Conduct a review of literature concerning marketing to physicians and medical staff/management relations.
2. Identify patterns in Irwin Army Community Hospitals' physicians' acceptance of Gateway by:
 - a. Developing an instrument to survey selected attitudes and perceptions that influence physician acceptance and measure the current level of acceptance.

b. Conducting a pilot study to assess the effectiveness (validity and reliability) of the chosen method and make adjustments accordingly.

c. Distributing the survey to assigned military physicians.

d. Collecting the surveys and developing a data base in order to conduct statistical analysis.

3. Formulate and implement an internal marketing intervention plan based on input from the physicians.

4. Evaluate the success of the plan by readministering the survey and assessing changes that occurred.

These objectives were carried out in three phases.

Phase I

Phase I involved determining the attitudes, perceptions, and resulting acceptance of the internal military providers. Tull and Hawkins (1987) identify five basic operational approaches to the measurements of attitudes and perceptions. Inferences drawn from:

- 1) self-reports of beliefs, feelings, and behaviors;
- 2) observation of overt behavior; 3) responses to partially structured stimuli; 4) performance of objective tasks; and 5) physiological reactions to the attitudinal object. This study employed the first approach.

Subjects and Data Collection

The subjects of this study were military physicians assigned to Irwin Army Community Hospital, Fort Riley, Kansas. The study used nonprobability sampling techniques in that the survey instrument was administered to the entire assigned military physician population (excluding those military physicians who were responsible for developing the Gateway to Care Program) on two occasions (Time 1 and Time 2). This method of evaluation was selected to allow for mobility of the assigned physician population over time due to permanent change of station (PCS) transfers. An overall organizational attitude, rather than individual provider attitude, was assessed.

Survey Instrument. The survey instrument for this study consisted of a written questionnaire distributed to each assigned military physician with the exclusions noted above. Questions for the survey were developed based upon previously identified physician concerns with CAM as described in the literature review as well as informal input from the assigned military physician population. The survey was pre-tested by the five physicians responsible for developing the Gateway to Care Program and by one physician who was selected for his exceptional critical analysis abilities. They

reviewed each question and the possible responses for pertinent content and face validity. Changes were made to clarify some questions unlikely to provide useful information in their original form. The resultant questionnaire consisted of four sections:

1) Section I, Demographic Data, contained four dichotomously scored items; 2) Section II, Gate Concepts and Involvement, contained four scaled and seven dichotomously scored items; 3) Section Incentives, contained one dichotomously scored item and one scaled item; and 4) Section IV contained one open-ended question (see questionnaire at Appendix).

A survey period of thirty days ensured that those physicians on annual leave, sick leave, temporary duty and other absences were afforded the opportunity to participate. Nonresponse error was minimized through fostering the support of the Commander, Deputy Commander for Clinical Services, and Deputy Commander Administration, as well as through personal contact meetings with Clinical Department Chiefs. A minimum desired response threshold of seventy percent was established.

Ethical Considerations

The data was collected by means of a voluntary questionnaire and compiled by preassigned

identification numbers not linking or identifying individual participants.

Validity and Reliability

Validity and reliability are indices. They are numbers obtained through statistical testing of the measurement instrument. Validity can be viewed as measuring the right thing, and reliability can be viewed as measuring the thing right. Both indices are a test of the amount of "truth" in the measuring instrument, and that error is the difference between a true (infinite) score, and the obtained score of the instrument (Kerlinger, 1986).

In the development of any measurement tool, the first step required is that the instrument be validated. In general the term validity alludes to the instrument's ability to measure what it purports to measure. There are several types of validity that can be applied to test construction or performance. Content validity determines if the questions clearly and fairly measure content that is representative of the topic being investigated. Construct validity refers to the representativeness of the constructs being examined. Validities of the survey instrument were measured by computing a Pearson zero order product moment coefficient, $p < .05$, for each variable.

Reliability is the capability of the instrument to measure the same construct each time it is administered. In order to have good reliability, and instrument must reduce measurement error due to inconsistent interpretation of the items or error due to items which are unrelated to the constructs in the different settings in which it might be administered. Survey instrument reliability of continuous ratings of Gateway to Care characteristics was measured by using randomized blocks of analysis of variance and computing values for Cronbach's alpha (desired minimal threshold was set at equal to or greater than .60). Computed values for Time 1 and Time 2 were .64 and .72 respectively.

Data Analysis

Survey data to be analyzed was collected before (Time 1) and after (Time 2) the marketing intervention plan development and implementation. Microstat software was used to compute statistics. Missing data was adjusted by imputing the average response value for that particular variable:

$$\bar{x} = \frac{\sum \bar{x} + x}{n + 1}$$

Background variables and attitude items were first examined by computing Pearson zero order product moment

coefficients, $p < .05$, for all variables. Those variables exhibiting a significance of .05 or greater were selected for further parametric testing using either student's t tests, Z tests for proportions or step-wise regression analyses. The student's t test determines the statistical significance between a sample distribution and a parameter (Emory, 1985). Emory (1985) states that the use of student's t test is based on the following assumptions:

1. The observations made are independent.
2. The observations are drawn from a normally distributed population.
3. Equal variations are present within the population.
4. The measurement scale utilized is at least an interval scale.

A Z test measures the standard error of difference between two proportions. Z tests are often used to study the difference in the proportions of two groups (Time 1 and Time 2) that engage in a certain activity or have a certain characteristic.

Phase II

Phase II utilized those variables displaying statistical significance ($p < .05$) to develop and implement an Gateway to Care internal marketing

intervention plan targeting assigned military providers. For example, if a statistically significant correlation existed between support of Gateway to Care and a physician perception that Gateway to Care will increase quality, then quality was selected as a marketing focal point.

Phase III

The success of the marketing intervention was evaluated by a Time 2 survey of physicians' acceptance of Gateway to Care. Student's t tests were used to evaluate changes from Time 1 to Time 2 for continuous ratings. Z tests were used to examine proportion (percentage) shifts in categorical responses (see questionnaire located at Appendix). Finally, step-wise regression was used to assess the underlying components (section II, item 6) associated with physician acceptance of Gateway to Care (section II, item 8).

RESULTS

Phase I

Surveys were distributed to 36 assigned military physicians. A total of 26, or 72 percent, responded. Approximately one-half of the respondents were board certified Majors with five to nine years of active federal service. Only 38% had practiced medicine in the civilian sector. The demographic distribution of

physicians is located at Table 1. Sixty-two percent of the respondents indicated that they supported Gateway to Care.

Insert Table 1 about here

Respondents were asked to indicate their familiarity with Gateway to Care concepts on a four point scale; a 4 indicated very familiar and a 1 indicated not familiar. Table 2 reports the results including the mean importance (average rating) for each of the concept variables.

Insert Table 2 about here

No clear patterns emerged linking rank, total years of active federal service, medical specialty, civilian experience, concept familiarity, sources of information, or incentives with acceptance of Gateway to Care (Pearson zero order product moment coefficients, $p < .05$). A significant positive correlation appeared between those physicians that were board certified and acceptance of Gateway to Care, $p = .4431$. (See Table 3).

Insert Table 3 about here

Respondents were asked to indicate their level of agreement with a series of attitude statements (section II, item 6) on a five point scale; a 5 indicated strongly agree and a 1 indicated strongly disagree. A statistically significant positive correlation appeared between provider support of Gateway to Care and provider perception that Gateway to Care: 1) will increase the quality of patient care; 2) will increase access to care; 3) will increase patient satisfaction; 4) will be successful; 5) is an economical way of providing quality health care, and 6) is a "smarter way of doing business". A statistically significant negative correlation appeared between provider support of Gateway to Care and the perception that Gateway to Care will go way when the Commander leaves or, in other words, Gateway to Care is not a "local fad". (See Table 3.) Table 4 reports the results of multiple regression analysis used to examine the relationship between the 11 attitude predictor variables and the criterion variable, including the mean importance (average rating) for each of the attitude variables. Stepwise regression analysis was performed to identify

those variables which contributed most significantly to the correlation. The independent attitude variables of Gateway to Care:

1) is a "smarter" way of doing business (SMAR),
2) will go away when the Commander leaves (CDR), 3) is an economical way of doing business (ECON), and 4) will increase provider satisfaction (PROV) accounted for 63 percent of the variance of the dependent variable, provider acceptance of Gateway to Care . $F(4, 21) = 8.82, p < .001$.

$Y(\text{Acceptance}) = -.05 - .25(\text{PROV}) + .25(\text{ECON}) - .18(\text{CDR}) + .26(\text{SMAR})$

Insert Table 4 about here

Phase II

The goals of the internal marketing intervention plan were two-fold: to communicate strategic and operational concepts of Irwin Army Community Hospital's Gateway to Care Program and to increase assigned military physician acceptance of the Gateway to Care Program. Specific supporting objectives were to obtain a statistically significant increase ($p < .05$) in Gateway to Care concept familiarity and to increase physician acceptance of Gateway to Care to a minimum of

85% ($p < .05$) Simple verbal communication was chosen as the marketing intervention tool.

A formal briefing by either the Commander or the Deputy Commander for Clinical Services was presented at "brown-bag" noon lectures to the assigned military. The briefings were offered on four separate occasions in order to allow a majority of providers the opportunity to attend. A twelve o'clock time was selected to minimize disruption of the physician's patient care schedule. Basic concepts of Gateway to Care at both Department of the Army and Irwin Army Community Hospital levels were presented.

Operational level details of Irwin Army Community Hospital's Gateway to Care Program were presented informally to each of the individual clinics by the Commander. The seven statistically significant physician perceptions previously identified in Phase I (quality, access, patient satisfaction, success, economics, a "smarter way of doing business, and a Department of the Army program) were presentation focal points as well. The "richest" form of communication (Shortell, 1991), a one-on-one discussion technique was used. Presentation credibility was enhanced because the Commander is trusted and respected, both professionally and personally, by the assigned medical

staff. Discussions were scheduled at a time convenient to the clinic, and took place in the clinic on "their own turf". The entire clinic "team", to include ancillary support personnel, was present for the discussion.

Phase III

Surveys were distributed to 31 assigned military physicians six months after the initial survey. A total of 35, or 89 percent, responded. The Time 2 participant demographics were comparable to Time 1 participant demographics. (See Table 1.) Approximately one-half of the respondents were board certified Majors with five to nine years of active federal service. Only 35% had practiced medicine in the civilian sector. Seventy-four percent of the respondents indicated that they supported Gateway to Care (an increase of 12 percent from Time 1, $Z = -.972$, $p = .1656$, ns).

The results for each of the concept variables, including the mean importance (average rating) are reported in Table 2. A student's t test demonstrated a significant change in the providers familiarity with both the concepts of Gateway to Care and Hospital Commander's concept of Gateway to Care ($p < .01$). No clear patterns emerged linking total years of active

federal service, medical specialty, civilian experience, or incentives with acceptance of Gateway to Care (Pearson zero order product moment coefficients, $p < .05$). A significant negative correlation appeared between those physicians that were of the rank of Captain, those physician's familiar with the Hospital Commander's Concept of Gateway to Care, and those physicians who obtained information through personal contact with their Department Chief and acceptance of Gateway to Care. (See Table 5).

Insert Table 5 about here

Z tests for proportions comparing information sources between Time 1 and Time 2 indicated a significant change in information received from formal Department Chief briefings, informal briefings from the Commander, Deputy Commander for Clinical Services, and the Deputy Commander for Administration, and informal briefings from the Department Chief ($p < .05$). (See Table 6.)

Insert Table 6 about here

A statistically significant positive correlation appeared between provider support of Gateway to Care and provider perception that Gateway to Care: 1) will increase access to care; 2) will increase patient satisfaction; 3) will increase provider satisfaction, 4) will be successful; and 5) is an economical way of providing quality health care. (See Table 5.)

Table 7 reports the results of multiple regression analysis used to examine the relationship between the 11 attitude predictor variables and the criterion variable, including the mean importance (average rating) for each of the attitude variables. Stepwise regression analysis indicated that the independent attitude variables of Gateway to Care: 1) will increase patient satisfaction (PTST) and 2) will be successful (SUCC) accounted for 47 percent of the variance of the dependent variable, provider acceptance of Gateway to Care. (See Table 7.) $F(2, 28) = 12.58, p < .001$.

$$Y (\text{Acceptance}) = -.34 + .20(\text{PTST}) + .19(\text{SUCC})$$

Insert Table 7 about here

DISCUSSION OF FINDINGS

There was a significant increase in the assigned

military physicians' familiarity with both the Department of the Army's concept of Gateway to Care and the Hospital Commander's concept of Gateway to Care. This increase is most likely attributed to the marketing communication intervention plan as demonstrated by the corresponding increase in information received in informal briefings from the Commander. A significant increase in information obtained during both formal and informal briefings from the Department Chief was also evident. The negative correlation among the rank of Captain, information received in formal briefings from Department Chiefs, familiarity with the Hospital Commander's concept of Gateway to Care, and physician acceptance of Gateway to Care may be attributed to a number of causes to include: 1) junior physicians not believing Gateway to Care is a viable program; 2) Department Chiefs (primarily Majors and Lieutenant Colonels) may be more skeptical and resistant to change and communicate their perceptions and attitudes to their subordinates; or 3) perceived inconsistencies in workload distribution among the teams and the specialty clinics.

The Time 1 survey was administered when the Gateway to Care Program initially began while the Time 2 survey was administered six months later. The

transition in those attitude variables that significantly impacted upon physician acceptance of the program may simply, and most likely, be attributed to a normal maturation process, i.e., working within the program for six months and seeing that it is an economical and smarter way of doing business and that it is not going away when the Commander leaves. Instead, the focus shifted from whether or not the physician will derive satisfaction to patient satisfaction with the program, and whether or not program will succeed. The lack of statistically significant change in overall physician acceptance of Gateway to Care may also be attributed to a wait-and-see attitude on the part of physicians concerned with patient acceptance of the program.

CONCLUSIONS AND RECOMMENDATIONS

Continued internal marketing should address the significant perceptions identified in Phase II of this study (patient satisfaction and program success). Patient satisfaction with Gateway to Care can be assessed through a patient satisfaction survey. The results of this survey should be shared with assigned personnel.

The number of providers will continue to decrease as "downsizing" of the Army progresses. The number of

eligible beneficiaries, however, will continue to increase. The Department of the Army Gateway to Care Program has the potential of increasing accessibility to quality health care to an increased number of beneficiaries while containing costs. Involvement and communication are the keys to affording Gateway to Care the best opportunity of succeeding.

Providers of healthcare at all levels must be afforded the opportunity to participate in both strategic and operational program development, e.g., junior providers can be selected to represent the views of their departments. Adopting a "management-by-walking-about" leadership philosophy throughout the command can also solicit input and foster acceptance.

A continuous two-way flow of communication is critical to the success of Gateway to Care or any other new program. Rumor and perceptions replace fact in the absence of communication. Effective communication markets the program. Internal marketing efforts should be expanded to include nursing, ancillary and administrative personnel as well as physicians.

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TABLES

Table 1

Participant Demographics

	Time 1 ^a	Time 2 ^b
=====	=====	=====
Rank		
COL	8%	6%
LTC	11	7
MAJ	50	55
CPT	31	32
	<u>100%</u>	<u>100%</u>
Years Active Federal Service		
20+	0%	0%
15-19	4	10
10-14	23	26
5-9	46	45
0-4	27	19
	<u>100%</u>	<u>100%</u>
Specialty		
Family Medicine	11.5%	6%
General Surgery	8	10
Internal Medicine	15	10
Obstetrics/Gynecology	11.5	16
Other	46	48
Pediatrics	8	10
	<u>100%</u>	<u>100%</u>
Board Certified	58%	68%
Completed Civilian Residency	23%	26%
Practiced Civilian Medicine	38%	35%
Practiced Civilian HMO	11%	13%

^aN = 26^bN = 31

Table 2

Concept Familiarity

	Time 1 ^a		Time 2 ^b		\bar{x} Change	t	p
	\bar{x}	SD	\bar{x}	SD			
Managed Care	2.85	.78	3.16	.69	.31	1.62	ns
Gateway to Care (GTC)	2.58	.76	3.19	.75	.61	3.07	<.01
IACH's GTC	2.46	.71	3.06	.73	.60	3.16	<.01
Definition of GTC	.77	.43	.90	.30	.13	1.38	ns

Note. All results are significant at or below the $p < .05$ level, $df=55$.

^aN = 26

^bN = 31

Table 3

Time 1 Pearson Zero Order Product Moment Coefficients

	QUAL	ACCS	WRKL	DMWL	PTST	PROV	SUCC	ECON
QUAL ^a	1.0000							
ACCS ^b	.4479	1.0000						
WRKL ^c	-.1621	-.1524	1.0000					
DMWL ^d	-.2622	-.0039	.5252	1.0000				
PTST ^e	.6081	.7383	-.2002	-.0071	1.0000			
PROV ^f	.5668	.5302	-.5591	-.3638	.6390	1.0000		
SUCC ^g	.4686	.4441	-.4987	-.2190	.5515	.6143	1.0000	
ECON ^h	.1930	.5007	-.2896	-.3435	.3344	.4854	.4650	1.0000
CDR ⁱ	-.6694	-.3357	.1381	.1184	-.3265	-.3123	-.5373	-.2950
WRKD ^j	.1041	.2637	-.2651	-.1795	.3311	.4886	.3852	.4002
SMAR ^k	.5934	.6366	-.2191	-.0304	.7783	.6351	.5816	.3441
BRDC ^l	.1684	.2119	-.3126	-.2563	.2734	.2032	.2304	.3766
SPTG ^m	.4787	.4499	-.0635	-.1487	.4360	.2598	.4755	.5268
	CDR	WRKD	SMAR	BRDC	SPTG			
CDR	1.0000							
WRKD	-.1168	1.0000						
SMAR	-.3585	.2851	1.0000					
BRDC	-.2678	-.0080	.1341	1.0000				
SPTG	-.5374	.0408	.5733	.4431	1.0000			

N = 26

Critical Value (2-tail, .05) = + or - .3874

^aGateway to Care (GTC) will increase quality of care^bGTC will increase access to care^cGTC will increase patient workload^dGTC means "doing more with less"^eGTC will increase patient satisfaction^fGTC will increase provider satisfaction^gGTC will be successful^hGTC is an economical way of providing careⁱGTC will go away when the Commander leaves^jGTC will create a equitable workload distribution^kGTC is a smarter way of doing business^lAre you board certified in your specialty?^mDo you support GTC?

Table 4

Time 1 Regression Analysis

Variable Tested	R ²	F	d _{f1}	d _{f2}	p	\bar{x}	SD
=====	=====	=====	=====	=====	=====	=====	=====
Full Model	.412	2.595	1	24	.048		
Quality	.229	7.135	1	24	.013	2.88	.82
Access	.202	6.091	1	24	.021	3.23	.95
Increase Workload	.004	.097	1	24	ns	3.92	.98
Doing More With Less	.022	.543	1	24	ns	3.84	.83
Patient Satisfaction	.190	5.631	1	24	.026	2.96	1.04
Provider Satisfaction	.224	1.738	1	24	ns	2.46	.81
Successful	.226	7.012	1	24	.014	2.57	.81
Economical	.278	9.220	1	24	.005	3.46	.86
Commander's Program	.288	9.745	1	24	.004	2.07	.94
Work Distribution	.017	.040	1	24	ns	2.54	.76
Smarter	.329	11.748	1	24	.002	3.08	1.09
Stepwise ^a	.627	8.815	4	21	<.001		

N = 26

^aStepwise regression analysis indicated that the Smart, Commander's Program, Economical and Provider Satisfaction attitude variables accounted for 62 percent of the variation in military physician support of Gateway to Care.

Table 5

Time 2 Pearson Zero Order Product Moment Coefficients

	QUAL	ACCS	WRKL	DMWL	PTST	PROV	SUCC	ECON
QUAL ^a	1.0000							
ACCS ^b	.4471	1.0000						
WRKL ^c	.1423	.3430	1.0000					
DMWL ^d	-.1233	.0545	.1706	1.0000				
PTST ^e	.0871	.6236	.2337	.1179	1.0000			
PROV ^f	.1628	.4325	-.1048	-.1819	.5054	1.0000		
SUCC ^g	.3167	.2915	-.1083	-.1370	.3693	.6414	1.0000	
ECON ^h	.4117	.4695	-.0837	.1074	.3960	.2160	.2704	1.0000
CDR ⁱ	-.0417	.1568	-.0525	.1042	.0436	.0442	-.2666	.0419
WRKD ^j	.1810	.4301	-.1863	-.2545	.2534	.4920	.1496	.3007
SMAR ^k	.4027	.3837	-.0090	.0238	.5843	.1637	.3471	.5980
CPT ^l	-.0077	-.1702	.2841	.0946	-.0456	-.2998	-.2547	.0412
HCCG ^m	.1369	-.1084	-.0312	.1334	-.3792	.1222	.0824	-.1512
INF2 ⁿ	-.1936	-.2471	.1916	.3059	-.3682	-.2317	-.0891	-.0725
SPTG ^o	.3190	.4978	.0180	-.2128	.5739	.5335	.5647	.3633
	CDR	WRKD	SMAR	CPT	HCCG	INF2	SPTG	
CDR	1.0000							
WRKD	.3848	1.0000						
SMAR	-.0277	-.0260	1.0000					
CPT	-.2666	-.1876	-.0456	1.0000				
HCCG	-.2280	-.2008	-.1291	.3235	1.0000			
INF2	-.3112	-.3340	-.1434	.5484	.3493	1.0000		
SPTG	.0556	.3225	.3410	-.5392	-.3590	-.4687	1.0000	

N = 31

Critical Value (2-tail, .05) = + or - .3544

^aGateway to Care (GTC) will increase quality of care^bGTC will increase access to care^cGTC will increase patient workload^dGTC means "doing more with less"^eGTC will increase patient satisfaction^fGTC will increase provider satisfaction^gGTC will be successful^hGTC is an economical way of providing careⁱGTC will go away when the Commander leaves^jGTC will create a equitable workload distribution^kGTC is a smarter way of doing business^lRespondent is a Captain^mFamiliar with the Hospital Commander's GTC ConceptⁿReceived GTC info from personal contact with Department Chief^oDo you support GTC?

Table 6

Z tests for proportions comparing information sources between Time 1 and Time 2

	Time 1 ^a	Time 2 ^b	%Change	Z	p
CDR, DCCS, DCA (formal)	.50	.64	14	1.06	ns
Dept Chief (formal)	.35	.61	26	1.96	.0253
CDR, DCCS, DCA (informal)	.46	.71	25	1.92	.0277
Dept Chief (informal)	.12	.32	20	1.79	.0367
Co-workers	.46	.52	6	.45	ns
HSC written literature	.35	.29	- 6	-.48	ns
Medical journals	.15	.26	11	1.02	ns
Other	.12	.29	17	1.56	ns

Note. All results are significant at or below the $p < .05$ level.

^aN = 26

^bN = 31

Table 7

Time 2 Regression Analysis

Variable Tested	R ²	F	d _{f1}	d _{f2}	p	\bar{x}	SD
=====	=====	=====	=====	=====	=====	=====	=====
Full Model	.610	2.703	1	29	.028		
Quality	.102	3.286	1	29	ns	2.71	.86
Access	.248	9.552	1	29	.004	3.26	1.06
Increase Workload	>.001	.009	1	29	ns	3.77	.80
Doing More With Less	.045	1.376	1	29	ns	3.67	.90
Patient Satisfaction	.329	14.241	1	29	<.001	2.90	.94
Provider Satisfaction	.285	11.540	1	29	.002	2.23	.96
Successful	.319	13.576	1	29	<.001	2.64	.95
Economical	.132	4.409	1	29	.045	3.58	.96
Commander's Program	.003	.090	1	29	ns	2.09	1.04
Work Distribution	.104	3.365	1	29	ns	2.32	.83
Smarter	.116	3.816	1	29	ns	3.26	.89
Stepwise ^a	.473	12.587	2	28	<.001		

N = 31

^aStepwise regression analysis indicated that the Patient Satisfaction and Success attitude variables accounted for 47 percent of the variation in military physician support of Gateway to Care.

APPENDIX

PHYSICIAN ACCEPTANCE OF GATEWAY TO CARE

Irwin Army Community Hospital (IACH) was one of fourteen Army medical treatment facilities selected to initiate a "Gateway to Care", coordinated healthcare delivery system. The physicians of IACH, in their role as primary patient managers, are critical to the success of this program. The purpose of this survey is to establish a measure of understanding and acceptance of Gateway to Care among military physicians at IACH. All information will be collected and compiled by preassigned identification numbers neither linking nor identifying individual participants.

I. Demographic data

1. Rank (Circle one): CPT MAJ LTC COL
2. Total Years Active Federal Service (Circle one):
 0-4 5-9 10-14 15-19 20+
3. Medical Specialty (Circle one):
 OB\GYN Pediatrics Surgery Internal Medicine
 Family Medicine Other (Please specify) _____
4. Please circle the appropriate response to the following:

Are you board certified in that specialty?	Yes	No
Have you completed a residency at a civilian institution?	Yes	No
Have you practiced in the civilian medical sector?	Yes	No
Have you worked in a civilian HMO/PPO?	Yes	No

II. Gateway Concepts and Involvement

1. As a physician, how familiar are you with the concept of managed care? (Check one)

☐ Very familiar
☐ Moderately familiar
☐ Slightly familiar
☐ Not familiar
2. How familiar are you with the concept of Gateway to Care? (Check one)

☐ Very familiar
☐ Moderately familiar
☐ Slightly familiar
☐ Not familiar
3. How familiar are you with the Hospital Commander's concept of Gateway to Care? (Check one)

☐ Very familiar
☐ Moderately familiar
☐ Slightly familiar
☐ Not familiar
4. If asked, could you give a one or two sentence definition of Gateway to Care? (Circle one)

☐ Yes ☐ No

5. How have you obtained information about Managed Care or Gateway to Care?
(Check all that apply)

- ☐ Personal contact with the Commander, DCCS, DCA
- ☐ Personal contact with your Department Chief
- ☐ Formal briefing by the Commander, DCCS, DCA
- ☐ Formal briefing by your Department Chief
- ☐ Personal conversations with co-workers
- ☐ Written literature from Health Services Command
- ☐ Medical journals/periodicals
- ☐ Other sources (Please specify _____)

6. Please indicate your level of agreement with the following statements.
(Circle one response per question)

	Strongly Agree	Moderately Agree	Neither Agree Nor Disagree	Moderately Disagree	Strongly Disagree
Gateway to Care.....					
will increase quality of patient care.....	5	4	3	2	1
will increase access to care.....	5	4	3	2	1
will increase patient workload.....	5	4	3	2	1
means "doing more with less".....	5	4	3	2	1
is a "smarter way of doing business".....	5	4	3	2	1
will increase patient satisfaction.....	5	4	3	2	1
will increase provider satisfaction.....	5	4	3	2	1
will be successful.....	5	4	3	2	1
is an economical way of providing quality health care.....	5	4	3	2	1
will go away when the Commander leaves.....	5	4	3	2	1
will create an equitable distribution of workload between civilian and military providers	5	4	3	2	1

7. Have you been involved in developing the following for Gateway to Care?
(Circle one)

Provider personnel requirements	Yes	No
Ancillary personnel requirements	Yes	No
Job standards for new providers	Yes	No
Equipment requirements	Yes	No
Space requirements	Yes	No

8. Do you support Gateway to Care? (Circle one) Yes No

9. Would you be interested in attending formal
presentations on managed care? (Circle one) Yes No

10. Would you be interested in attending formal
presentations on Gateway to Care?
(Circle one) Yes No

11. Would you be interested in being a member of
a working group making managerial
recommendations to the Commander? Yes No